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The drawings are objected to because Figure 2 should be designated by a legend such as -
-Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “basically circular” in claim 1, and therefore also all the claims that depend from it, is used by the claim to mean “having a shape of a flattened or oblate circle”, while the accepted meaning is “having a shape wherein every point is equidistant from a central point.” The term is indefinite because the specification does not clearly redefine the term.

Claim 4 recites the limitation "the spokes (5) of a rotor segment (7)" in line 2. There is insufficient antecedent basis for this limitation in the claim because the claim depends from claim 1, but the only antecedent basis for the spokes is in claim 2. For purposes of examination, claim 4 will be treated as if it depends from claim 2, but correction is required.

Claim 9 is indefinite because the limitation that “the rotor segments (7) are formed with a stress-optimized radial thickness profile” is a purely functional limitation that does not set forth any structural limitations capable of distinguishing the claimed rotor. Similarly, the limitation in claim 12 that the rotor is “suitable for circumferential speeds exceeding 300 m/s, especially exceeding 400 m/s” does not set forth any structural limitations.

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A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 10 recites the broad recitation "an effective radius exceeding 500 mm", and the claim also recites "especially 1000 mm" which is the narrower statement of the range/limitation.

Claims 13 and 14 provide for the use (application) of the claimed rotor, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 13 and 14 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5-8, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Mongeau (U. S. Patent No. 4,691,133). Mongeau discloses a rotor (2) characterized by at least one rotor segment (16, 17) that is part of a solid disk and that extends from a hub (drive shaft 1) to the work circle (not labeled but clearly visible in Figures 1, 2, 5, and 6), the rotor having a discontinuous rim and the rotor segment (16, 17) having at least one closed cutout (53), the geometry of the cutout (53) being basically circular (although elongated, as is the cutout (6) disclosed in the instant application, and narrowing at the end closest to the hub) and having a smoothly continuous edge line, as claimed in claim 1. It is noted that statements of intended use and functional limitations ("for high-speed operation and optimized with respect to centrifugal forces (effective radius and rotation speed) and stress limits of its material" and "for reducing stresses encountered during use of the rotor") do not define structural limitations with sufficient clarity to patentably distinguish the claimed invention.

Each of Mongeau's rotor segments (16, 17) has mirror symmetry and the axis of symmetry goes through the hub, as claimed in claim 3, and is shaped at its outer end as a segment of a circle, as claimed in claim 5, and the overall rotor (2) has at least three rotor segments, as claimed in claim 6, that are provided in an evenly distributed manner around the hub, as claimed in claim 7, and are identical to each other, as claimed in claim 8. At lines 19-24

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in column 4, Mongeau teaches that the rotor should have an effective radius 1000 mm (120 cm), as claimed in claim 10, and is made of metal (aluminum), as claimed in claim 11.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U. S. Patent No. 5,430,943). Lee discloses a rotor (planar cutting attachment 626, illustrated in Figure 30) characterized by having at least one rotor segment (arms 642) that is part of a solid disk (relatively rigid body 627) and that extends from a central hub (coupling portion 631 that couples to drive shaft 39, as discussed at lines 46-57 in column 24) to the work circle (not illustrated but inherently present when the cutting attachment spins as is required to fulfill its intended function of cutting vegetation), the rotor having a discontinuous rim and the rotor segment (arms 642) having two closed cutouts (slots 663) such that the material enclosing the cutouts is present in the form of three largely parallel spokes (narrow support portions 666), as

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claimed in claims 1, 2, and 4. The cutouts are basically circular in the same way as those illustrated in the instant application, but their edges do not have a smoothly continuous line because of the presence of bumps 647 in each central support portion and extending into each cutout to limit pivotal movement of the arms if the cutting attachment encounters an object while spinning (see lines 30-49 in column 25). It would have been obvious to a person having ordinary skill in the art to leave out these bumps from the central support portions of each arm if there was no expectation of the rotor encountering an object because the omission of an element along with the loss of its function is obvious. Each rotor segment (arm 642) has mirror symmetry and the axis of symmetry goes through the hub, as claimed in claim 3, and the rotor has three identical rotor segments evenly distributed around the hub, as claimed in claims 6-8. The size of the rotor, as claimed in claim 10, would be an obvious result effective variable.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ciarlei et al. (U. S. Patent No. 4,909,600) discloses a rotor (light chopper wheel 10) that is similar to that claimed in the instant application, as do Fisher et al. (U. S. Patent No. 4,126,990, with cutter disc 20) and Bloch (U. S. Patent No. 2,714,170, with rotor disks 33).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack I. Berman whose telephone number is (571) 272-2468. The examiner can normally be reached on Monday-Thursday (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jack I. Berman/
Primary Examiner, Art Unit 2881

jb
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